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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,101	06/23/2003	Donald F. May	49480-050	7037
20277	7590	04/19/2006	EXAMINER	
MCDERMOTT WILL & EMERY LLP 600 13TH STREET, N.W. WASHINGTON, DC 20005-3096			ALLEN, STEPHONE B	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/601,101	<b>Applicant(s)</b> MAY ET AL.	
	<b>Examiner</b> Stephone B. Allen	<b>Art Unit</b> 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 3/31/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-24 is/are rejected.
- 7) ☒ Claim(s) 2-4, 9-12 and 25-31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

Examiner acknowledges receipt of the information disclosure statement (IDS) submitted on 31 March. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the IDS has been considered by the examiner.

### ***Claim Rejections - 35 USC § 112***

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "inactive light emitting diodes" in line 3. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5-8 and 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muthu et al. (Muthu) in view of Mukai.

With respect to claim 1, Muthu discloses an apparatus (Figure 1) for emitting radiant energy, comprising a light mixer, a plurality of sources 22, 24, 28 of radiant energy coupled to supply radiant energy into the light mixer 26, wherein each of the sources emits radiant energy of a different wavelength, and the combined radiant

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energy emitted includes the radiant energy of the different wavelengths; and control circuitry coupled to the sources for establishing output intensity of radiant energy of each of the sources to set a spectral characteristic of the combined radiant energy emitted.

Muthu is silent as to the means used as the light mixer. Mukai discloses whereby an integrating cavity having apertures is used as a light mixer for mixing light from a plurality of light sources of different wavelengths. (col. 3, lines 55-64). It would have been obvious for one ordinary skill in the art to modify Muthu to include an integrating sphere as disclosed in Mukai, in order to impart the light diffusing properties inherent to the integrating sphere along with light mixing.

With respect to claim 5-7 the modified Muthu discloses wherein the plurality of sources comprises one or more light emitting diodes for emitting light of a first color; and one or more light emitting diodes for emitting light of second color, wherein the second color is different from the first color and further comprises one or more light emitting diodes for emitting light of a third color different from the first and second colors, wherein the first, second and third colors are red, green and blue, respectively.

With respect to claim 8, the modified Muthu fails to disclose wherein the plurality of sources further comprises one or more light emitting diodes for emitting light of a fourth color different from the first, second and third colors. It would have been obvious for one of ordinary skill in the art to further modify Muthu to include any given number of different light sources in order to obtain additional different color combinations, as desired.

With respect to claim 13, the modified Muthu discloses wherein the apparatus further comprises a temperature sensor, and the control circuitry selectively activates the inactive light emitting diodes as needed, in response to sensed variations in temperature.

With respect to claim 14, the modified Muthu discloses wherein the apparatus further comprises a temperature sensor, and the control circuitry is also responsive to the sensed temperature.

With respect to claims 15-17, the modified Muthu discloses a control circuitry as claimed (col. 8, lines 12-31).

With respect to claims 18-24, the modified Muthu fails to disclose the exact makeup, size and shape of the integrating cavity, however such would have been an obvious design modification for one of ordinary skill in the art to make since it would still perform substantially the same function.

***Allowable Subject Matter***

Claims 2-4, 9-12 and 25-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Claims 32-35 remain allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephone B. Allen whose telephone number is 571-272-2434. The examiner can normally be reached on M-F 08:30-5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Stephone B Allen  
Primary Examiner  
Art Unit 2878

sba